

AMENDMENTS TO THE CLAIMS

1. (Previously Presented) A variable flexure-based fluid filter apparatus for filtering particles from a fluid, comprising:

- a variable flexure-based fluid filter body,
- a fluid passage in said body,
- a fluid inlet connected to said fluid passage,
- a fluid outlet connected to said fluid passage,
- a flexure unit connected to said passage,
- an expandable piezo-electric stack connected to said passage and positioned proximate said flexure unit,
- a variable size passage between said flexure unit and said expandable piezo-electric stack, wherein said piezo-electric stack can be expanded for adjusting the size of said variable size passage for filtering said particles from said fluid and wherein expansion of said piezo-electric stack provides deflection of said flexure unit,
- a particle sequestering area connected to said fluid passage and located adjacent said flexure unit, said variable size passage, and said expandable piezo-electric stack, and
- a window in said body operatively connected to said particle sequestering area wherein said window allows visual inspection of said particle sequestering area.

2. (Previously Presented) The variable flexure-based fluid filter apparatus for filtering particles from a fluid of claim 1 wherein said flexure unit is a steel flexure unit.

3. (Previously Presented) The variable flexure-based fluid filter apparatus for filtering particles from a fluid of claim 1 including a strain gauge operatively

connected to said piezo-electric stack and said flexure unit that provides feedback on said deflection of said flexure unit.

4. (Previously Presented) The variable flexure-based fluid filter apparatus for filtering particles from a fluid of claim 1 including a set screw operatively connected to said piezo-electric stack.

5. (Previously Presented) The variable flexure-based fluid filter apparatus for filtering particles from a fluid of claim 1 wherein said window operatively connected to said particle sequestering area is located opposite said piezo-electric stack.

6. (Previously Presented) The variable flexure-based fluid filter apparatus for filtering particles from a fluid of claim 1 wherein said window is a sapphire window.

7. (Previously Presented) The variable flexure-based fluid filter apparatus for filtering particles from a fluid of claim 1 wherein said variable size passage has a size range to accommodate particles from 1 micron to 500 microns in size.

8. (Previously Presented) The variable flexure-based fluid filter apparatus for filtering particles from a fluid of claim 1 wherein said variable size passage accommodates particles that are beads.

9. (Previously Presented) The variable flexure-based fluid filter apparatus for filtering particles from a fluid of claim 8 wherein said beads include optically labeled tags.

10. (Previously Presented) The apparatus for filtering particles from a fluid of claim 8 wherein said beads include bead surfaces and antibodies or antigens on said bead surfaces.

11. (Cancelled)

12. (Cancelled)

13. (Cancelled)

14. (Cancelled)
15. (Cancelled)
16. (Cancelled)
17. (Cancelled)
18. (Cancelled)
19. (Cancelled)
20. (Cancelled)
21. (Cancelled)